

Features

The 4452 is a natural gas burner specifically designed to provide a low emission flame in low temperature furnaces and ovens. Direct fired aluminum homogenizers and other low temperature heat treat furnaces are ideal applications. The burner is designed for vertical firing but can be fired horizontally without modification in applications below 1200°F.

The burner has an alloy flame protection tube which helps control emissions. Heat release to the tube is very even, which minimizes hot spots and increases tube life.

The burner is ignited with a simple low cost direct spark igniter (comes with burner) and has a wide lighting window. Flame supervision can be provided with either a UV scanner or flame rod (sold separately). A 3/4" observation port is also provided as well as locations for 1/8" air and gas pressure taps.

NOx and CO Suppression Technologies

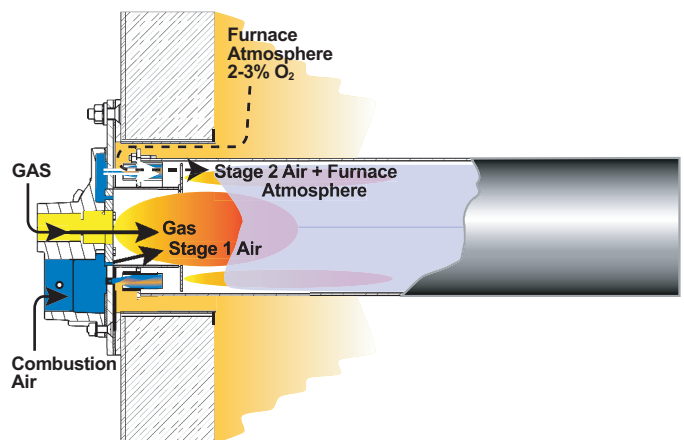
The 4452 utilizes a number of NOx and CO suppression techniques. Air staging and self-recirculated FGR (flue gas recirculation) are used to reduce NOx. NOx emissions are reduced by nearly half compared to conventional burners. Air staging works by adding the air to the fuel in controlled

The 4452 Advantage:

- Low NOx and CO emissions for low temperature furnaces and ovens without externally supplied FGR
- Wide turndown range / wide stability range
- All metal flame protection tube, no refractory required
- Direct spark ignition
- U.V. or flame rod supervision
- Sturdy industrial construction with stainless steel flame stabilizer
- NPT (USA) or metric fittings available
- For applications up to 1400°F if vertically fired or 1200°F if horizontally fired

"stages" which delays combustion. The addition of FGR lowers the peak flame temperature by adding thermal ballast and by reducing the concentration of oxygen in the flame. Conventional FGR systems require additional exhaust piping but the 4452 is able to self-entrain FGR directly from the furnace or oven atmosphere.

CO is controlled with the help of the flame protection tube which shields the flame from the quenching effects of relatively cool recirculating flue gas.



cfh Air Capacity in Cold Furnace with Air Pressure across the burner

Burner Size	.5 osi	1 osi	4 osi	9 osi	16 osi	20 osi
4452-6-A	1,910	2,700	5,560	8,310	11,110	12,420
4452-6-B	2,690	3,800	7,700	11,530	15,630	17,430
4452-7	4,720	6,680	13,050	19,750	26,180	29,580
4452-8-A	6,320	8,940	18,020	26,930	36,360	40,710

Flame Dimensions
at 16 osi (10% XSAir)
beyond flame protection tube

Length	Diameter
2'	1'
2'	1'
2'	1'
3'	1 1/2'

